

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

- 1) Please amend claims 61 and 65.
- 2) Please add new claims 82-84.

Listing of Claims:

Claims 1-60 (Cancelled).

Claim 61 (Currently amended): A high impact strength, elastic laminate system for enhancing impact resistant properties of a laminate structure, said laminate system comprising:

a first outer layer;
a second outer layer;
at least two inner plies placed between the first and second outer layers, at least one of said inner plies being adjacent to at least one of said first and second outer layers;
at least one dissipating element between said inner plies adapted and juxtaposed to said inner plies, said dissipating element being configured to dissipate and redirect randomly directed local loading applied to at least one of said two outer layers, to tensile loading directed in longitudinal direction (tensile) of said inner plies[;], whereby the said dissipating elements are structures presented in a form selected from the group: expanded mesh or namesh; woven mesh; and
a polymer matrix in between said first and second layers, and said first and second inner plies; said polymer matrix arranged to occupy all the volume not taken up by, and in between the said two outer layers, said at least two inner plies, and said at least one dissipating element.

Claim 62 (Previously Presented): The high impact strength, elastic laminate system as set forth in claim 61, wherein additional layers of said first and second plies, said dissipating element, and said polymer matrix are placed between said first and second outer layers.

Claim 63 (Original): The high impact strength, elastic laminate system as set forth in claim 61, wherein said inner plies are reinforcement plies.

Claim 64 (Previously Presented): The high impact strength, elastic laminate system as set forth in claim 63, wherein said reinforcement plies are made from a material selected from the group consisting of E-glass, R-glass, S2-glass, aramids, carbon, single fibre reinforcement, hybrid fibre reinforcement (natural or non-natural), Quadriaxial, Unidirectional, Double-bias, Biaxial, Triaxial, Plain woven, and Woven rovings.

Claim 65 (Currently amended): The high impact strength, elastic laminate system as set forth in claim 64, wherein said dissipating element has a form of ornamental expanded mesh.

Claim 66 (Previously Presented): The high impact strength, elastic laminate system as set forth in claim 65, wherein said dissipating element is made from a material selected from the group consisting of aluminum alloys, steel alloys, zinc alloys, titanium alloys, copper alloys, magnesium alloys, nickel alloys, aluminum alloy matrix composites, thermoplastics, plastics, polymers, foams, and wood.

Claim 67 (Original): The high impact strength, elastic laminate system as set forth in claim 66, wherein said dissipating ply element comprises of at least two dissipating ply elements, said dissipating ply elements and said reinforcement plies are each arranged in an arrangement selected from the group consisting of unidirectional, cross-ply, symmetric, balanced, quasi-isotropic, and hybrid laminates.

Claim 68 (Previously Presented): The high impact strength, elastic laminate system as set forth in claim 67, wherein said polymer matrix is made from a matrix selected from the group consisting of Vinylester, Epoxy, Phenolic, fire retardant, and adhesive.

Claim 69 (Previously Presented): The high impact strength, elastic laminate system as set forth in claim 68, wherein said first and second outer layers are made from a material selected from the group consisting of aluminum alloys, steel alloys, zinc alloys, titanium alloys, copper alloys, magnesium alloys, nickel alloys, alloy matrix composites, wood, plastics, paper, thermoplastics, polymers, foams, and paints.

Claim 70 (Previously Presented): The high impact strength, elastic laminate system as set forth in claim 69, further comprising at least one additional layer placed on any one of said outer layers, said additional layer being made from a material selected from the group consisting of foams, wood, honeycomb structures, thermoplastics, plastics, polymers, hybrid sandwiches, and paper.

Claim 71 (Original): The high impact strength, elastic laminate system as set forth in claim 70 wherein said dissipating elements being adapted to create an equilibrium of dissipated loads in said laminate structure with a component of the outer loading being redistributed in a longitudinal direction to the main axis of said reinforcement plies.

Claim 72 (Original): The high impact strength, elastic laminate system as set forth in claim 71, wherein said laminate system is adapted to absorb impact energy from about 3770 to about 4000 J, and absorb and redirect forces from about 50 to about 190 kN.

Claim 73 (Original): The high impact strength, elastic laminate system as set forth in claim 72, wherein said laminate system has a density range from about 1300 to about 2250 kg/m³.

Claims 74-80 (Cancelled).

Claim 81 (Previously Presented): The high impact strength, elastic laminate system as set forth in claim 61, wherein said dissipating elements have a form of woven mesh selected from the group: plain; twill; satin weave.

Claim 82 (New): The high impact strength, elastic laminate system as set forth in claim 61, wherein said inner plies are substantially sinusoidal in cross-section with an apex of at least one of said inner plies being adjacent to at least one of said first outer layer, and second outer layer.

Claim 83 (New): The high impact strength, elastic laminate system as set forth in claim 82, wherein at least one apex of one of said inner plies is adjacent to said first outer layer, and at least one apex of another of said inner plies is adjacent said second outer layer.

Claim 84 (New): The high impact strength, elastic laminate system as set forth in claim 61, wherein said dissipating element is ornamesh metal.